

Proposal master thesis

Topic:

Information provision to reduce pesticide use on the farm level

Description:

The European Union has set ambitious pesticide use and risk reduction targets. However, progress on those targets is slow so far. Further it is not clear how to reach targets, while reducing potential trade-offs with regard to food production and farmers income. Importantly, sustainable crop protection practices are usually more complex to implement for farmers than current pest management strategies, which heavily rely on the use of synthetic pesticides. Sustainable crop protection strategies often require new, or the adaptation of current management practices, in combination with novel tools and technologies. The support, advise and education of farmers has therefore been identified as a key element for this transition to sustainable pest management. However, it remains unclear how to best design tools and information to support farmers transition to a more sustainable food production with less pesticide use. Information might best be transmitted via different channels, using different framing or methods to deliver information. Thus, information provision might have important effects on uptake and impact of the information itself. The student will develop a framework of potential “information treatments and interventions” in the field of sustainable pest management, based on theory and literature in adjacent fields, and then highlighting existing literature and research gaps based on a systematic literature review on the topic.

Potential starting points in the literature are:

Banerjee, S., De Vries, F. P., Hanley, N., & Van Soest, D. P. (2014). The impact of information provision on agglomeration bonus performance: an experimental study on local networks. *American Journal of Agricultural Economics*, 96(4), 1009-1029.

Buchholz, M., & Musshoff, O. (2021). Tax or green nudge? An experimental analysis of pesticide policies in Germany. *European Review of Agricultural Economics*, 48(4), 940-982.

Haaland, I., Roth, C., & Wohlfart, J. (2023). Designing information provision experiments. *Journal of Economic Literature*, 61(1), 3-40.

Peth, D., Mußhoff, O., Funke, K., & Hirschauer, N. (2018). Nudging farmers to comply with water protection rules—experimental evidence from Germany. *Ecological Economics*, 152, 310-321.

Zachmann, L., McCallum, C., & Finger, R. (2023). Nudging farmers towards low-pesticide practices: Evidence from a randomized experiment in viticulture. *Journal of the Agricultural and Applied Economics Association*, 2(3), 497-514.

Contact:

The master thesis will be jointly supervised by the chair groups of “Digital Transformation and Circular Economy” and “Production Economics”, ILR University of Bonn.

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